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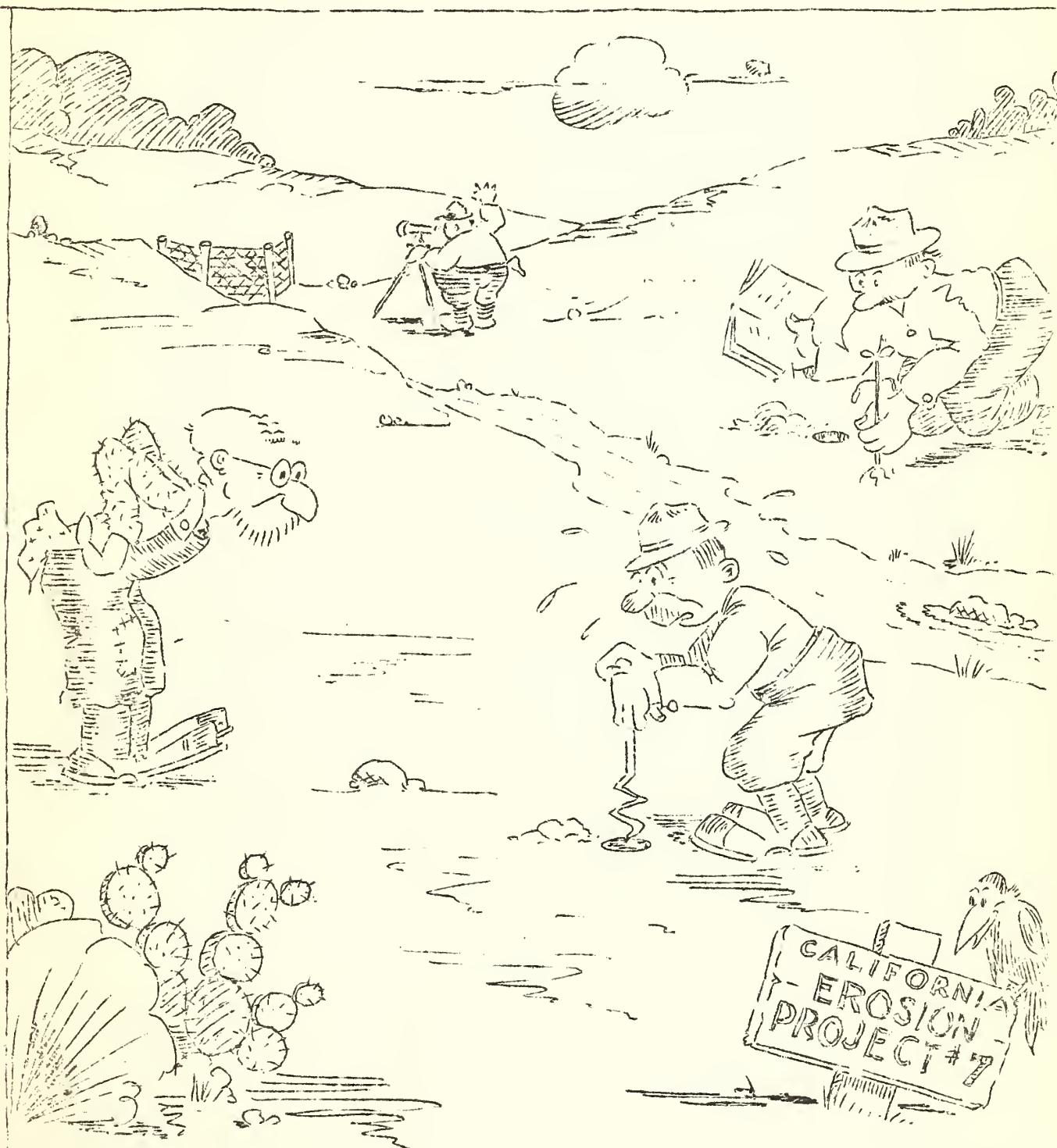
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# CALIFORNIA EROSION DIGEST

VOLUME 1 No 2

NOVEMBER 1934



HARRY E. REDDICK  
REGIONAL DIRECTOR

SANTA PAULA  
CALIFORNIA



## THERE'S A DIFFERENCE

The other day a land owner near one of our projects said: "Ah, what's all this hullabaloo about erosion for? If it wasn't for erosion there wouldn't be any farm lands here at all; it would still be ocean." The question was pertinent, logical, and probably typifies the thought of a large number of people in this state and the United States. The answer is one that every man and woman connected with soil erosion control should not only be able to give, but should have foremost in their minds when explaining the work of this organization to the people.

There are two kinds of erosion, natural and man-made. Natural erosion takes a million years to level a mountain and fill a valley. Natural erosion weathers the rocks to form that precious layer of top soil that combined with humus becomes the most valuable asset of mankind. To attempt to hasten or slow up this process would be foolhardy indeed.

Man-made erosion, however, is not a natural process, but a destructive characteristic of civilization. Man, in his thoughtless exploitation of the land, destroys in fifty years by induced erosion nature's labors for ten thousand years, and that is our concern.

It is of the utmost importance that the mission of this service not be confused in the minds of those we are trying to help. We are not trying to stop or to control a natural process, but we are trying to assist nature in her constant efforts to preserve and build up the only real value the land has for the agriculturist -- the top soil.

-- Harry E. Reddick,  
Regional Director.



## CALIFORNIA EROSION DIGEST

SOIL EROSION SERVICE, U. S. DEPARTMENT OF THE INTERIOR  
Issued monthly by California Erosion Control Project

HARRY E. REDDICK, REGIONAL DIRECTOR

SANTA PAULA, CALIFORNIA

Volume 1. No. 2

November 1934

### SCREENINGS FROM A RUN-OFF

Here we are again with another issue of the Digest. Hope everyone likes the cover. It was done by one of the draftsmen, who at present prefers to remain unknown.

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The Navajo Project News, "The Biggest Little Newspaper in the West," contained the following item in the October 25th issue: "Mr. Harry E. Reddick, Regional Director, and Mr. J. G. Bamesberger, Chief Engineer, of the Ventura Project, spent three days inspecting the Navajo Project. The following areas were visited: Nakai-Bito, Ganado, Mariano Lake, Frazer, and Canyon de Chelly.

It was a great pleasure to have these two gentlemen visit us, and it is hoped that they will return soon. Possibly they will be able to come back during another Los Angeles earthquake, since they missed the latest one by being here."

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Saw Hal Craig examining the new equipment the soils men have for their "lab". Hal seemed to think it was O.K. It is nice and shiny, but after Wohletz shoves a couple of acres of soil samples thru it who can tell what it will look like?

In glancing through the circulars from other states an item that caught our eye is this one from "The Tarheel Washoff." (Illustrated with a cartoon. Congratulations to the artist.)

"Corn fields in this section are noted for being steep, but Worley Kilgore, Guest River farmer, has the record steep field. While hoeing corn a few days ago Worley's 14-year old son, Winfred, fell out of the field and landed 40 feet below. He was carried to a hospital."

-- Virginia News Item.

Strange Doings in Old Virginny

(As the above story will read in the year 2000 A.D.)

It doth appear that in the year 1934 A.D. steep mountains were cultivated to various crops. Rumour has it that one, Borley Kilgore, a fine young fellow of 14, did go out one bright morning to hoo corn. The field was so steep that Borley could look straight down to the plain below. Losing his balance the poor fellow did fall 80 feet, but luckily landed in a hay stack.





# HYDROGRAPHIC DEPARTMENT REPORT

by

Leonard Schiff, Junior Agricultural Engineer

California Region No. 7 of the United States Soil Erosion Service, in its study of the problems and influencing factors of soil erosion and its prevention in the Las Posas area, Ventura Project has established ten runoff gaging stations, four of which stations are equipped with automatic stage recorders. Rainfall gages and wells have been located to aid the study of the balance existing between nature of area, rainfall, absorption, runoff and erosion.

The objects of the program are a study of factors as follows: the total runoff and silt loss of an agricultural area of this type in reference to the nature of the partial areas and total areas; gully runoff for design of dams, culverts and other erosion prevention structures; comparative influence of area, vegetation, soil, slope and climate when four of these variables may be considered as constants; subsurface water levels with particular attention being given to percolation and its factors of influence as vegetation, soil and slope, flow through gullies

for information as to the various types of check dams built in reference to quantities handled and silting, an instrumental survey of the dams having been made as well as the location of staff gages above the check dam crests. A study of runoff and its silt content before and after such erosion control methods as strip-cropping, terracing, and contouring, to determine effect of methods on decreasing both will be made if possible. The runoff and silt loss of small areas varying as area, nature of area, vegetation, soil and slope will be made in conjunction with a progressive picture story of the erosion occurring with reference to the duration, intensity and precipitation of rainfall.

The work will be carried on in conjunction and cooperation with the soils and agronomy departments, and information will be obtained as to field capacity, soil moisture, penetration, type and extent of crops, cultural methods, vegetation, and the areas of soil-type, slope class, and erosion-degree-class for correlation.

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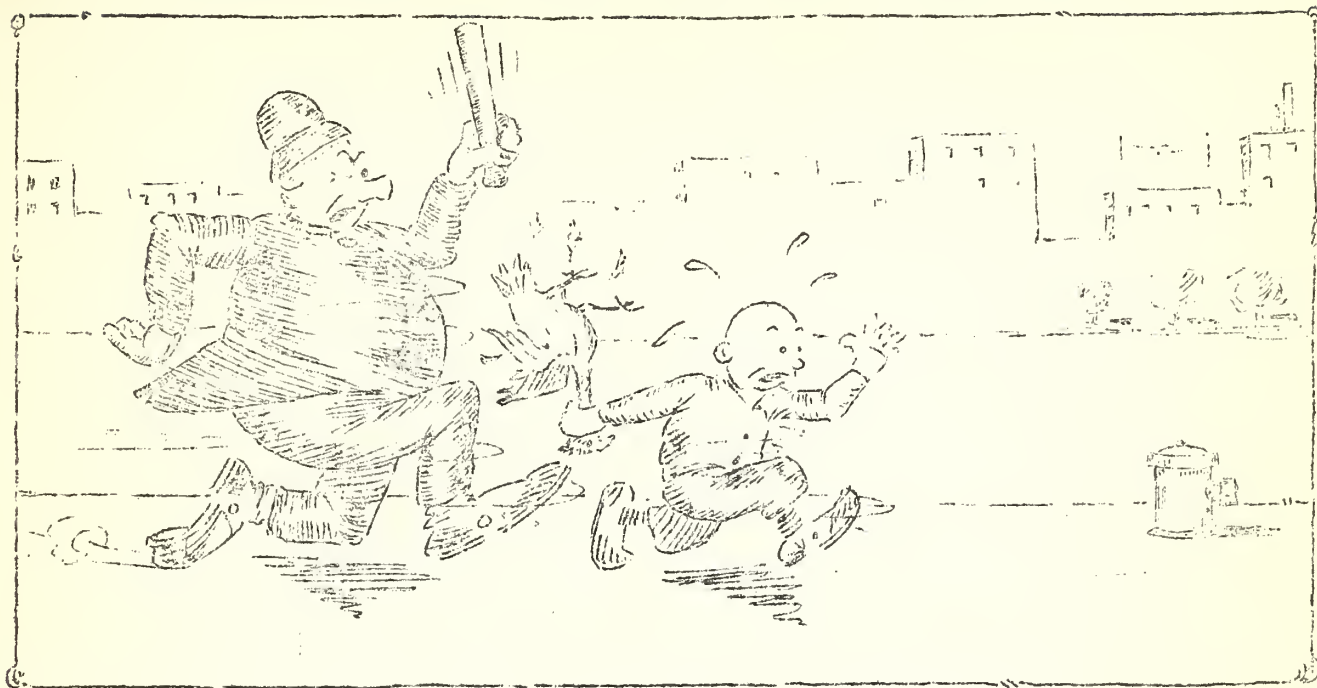
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V. M. Freeman, chief engineer of the Santa Clara Water Conservation district, gave a talk on "Climatology and Water Resources" at a staff meeting of the Soil Erosion Service on November 6th. Southern California is making increasing demands on its water resources and in view of the ups and downs in the rainfall the speaker stressed the importance of water conservation. Freeman pointed out the importance of the work soil erosionists are doing in protecting the watersheds.

Dr. R. V. Allison and A.E. Kocher, soil erosion specialists from the Bureau of Chemistry and Soils, Washington, D.C., inspected the Las Posas area on October 29th, under the guidance of W.B. Hooper, Extension Agent for the California S.E.S. Both visitors showed a great deal of interest in work being done, and took many pictures of gullies and fields that are being treated. They stated that they had visited a number of projects in various parts of the country and that real progress in combating soil erosion was being made in every case.



## ... AMONG OUR EROSIONEERS ...



Presenting

John Bamesberger, Chief Engineer

J. G. (he'll be John from now on) Bamesberger started his study of erosion on a mid-western farm at a very early age. When he was ten years old his maiden aunt decided to come west and find out where all the Iowayans were disappearing to. She came with a coldly appraising attitude and was as skeptical as a pawnbroker buying an actors stick pin. Four weeks later she returned to Bamesbergerville in the mid-west, and five weeks later she again set out for California acting as guide for most of the Bamesbergers able to travel. Our hero was among those present when noses were counted on the station

platform. On the way out she broke down and admitted that she had bought three lots in Long Beach and would show them to her kinfolks if she could catch the tide out.

After spending several years helping the farmers around Fresno keep their watermelon patches thinned, John moved to Long Beach (funny how they all do eventually.) There he distinguished himself by playing ship wreck. Rowing out a mile or so from shore John would sit and wait until a launch, steamer, or battleship was approaching, and then at the critical moment would yell frantically and do a



header into the briny, turning the boat over as he disappeared. Just as the life saving crews were arriving at the scene John would stick his dripping head out from under the boat and present them with the 1912 version of the razzberry. This typewriter won't print what he said they said.

While at U.S.C. John distinguished himself by outrunning a cop down Vermont Avenue. The feat is all the more remarkable when we consider the fact that John had an armful of Plymouth Rock chickens at the time. The engineering frat ate well that night.

After graduating from the engineering school John proved the value of his education by immediately knocking over a swell job -- as a chemist. For a number of years following life was just one test tube after another until -- he met a school teacher. It might have meant the end of the story, but for a rich uncle. Uncle Sam saw that the situation was growing critical and so he said. "Johnny, I'm going to draft you." John beat him to the punch by enlisting, and was soon overseas. Over there John heard a buddy grunt one day and turned to see him topple over as a reddish blotch grew larger on the breast of his uniform. "Some people are always unlucky," said John as he helped his comrade to the dressing station. "Oh, yeah!" said his buddy -- and two weeks later John pawed his way from out of the ether to find himself beside the nurse sat his buddy in a wheel chair. "Oh yeah!" his comrade was saying, as he grinned.

Back in America John "just happened" to meet a school teacher in El Paso, and they were married the next day. For a number of years after taking the vows John continued as a chemist in mines and oil refineries until one day when visiting an old

colloge friend in Santa Paula he observed him examining something in the distance with the aid of a spy glass. John asked for a look, and though we have no idea what he saw thru that transit (it may have been trained on a nudist colony) we do know that he hasn't juggled a test tube since.

John is Chief Engineer with the California S.E.S. and is doing a whale of a good job of a whale of a big job. Aside from keeping the stakes in line on 104 thousand acres of erosion control, he finds time to be active in the American Legion, shoot a few aces now and then, and be a regular fellow in the field or in the office.

There'll be another erosioneor next month.

-- Charlie D. J.

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Dr. R. MacLagan Gorrie, of the British Forest Service, was a recent visitor of the Las Posas soil erosion demonstration area. Dr. Gorrie has worked for a number of years in Punjab, India, with headquarters at Lahore. He is now in this country on a Leverhulme grant to study erosion and grazing in relation to forestry and watershed protection. Dr. Gorrie spent several days at the Washington office and has visited other projects on his trip to the west coast.

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Ralph H. Bennett, assistant extension agent, has signed twelve more Cooperative Agreements in the sub-project at Arroyo Grande.

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Narrow strips and terraced fields are not as difficult to work as are fields cut up by gullies.

-- Soil Erosion Sentinel.





## WILD LIFE MANAGEMENT AND SOIL EROSION (continued from October)

by Paul B. Dickey, Junior Agronomist

An improvement in the environment of wild game will result in an immediate increase in the number of individuals and the number of kinds.

An improved environment includes:

1. A continuous supply of food and water.
2. Sufficient cover for nesting, emergency, and a general sense of security.
3. Protection against natural enemies, disease and weather.

The one most important factor is food. Birds have been known to travel considerable distances for water if food was available near their favorite habitat. Wild creatures respond to luxury in much the same way as to humans; therefore, supplies of clean, fresh water for drinking and bathing, provision for rolling and dusting in a warm place, as well as an abundance of food and water at all seasons, will attract them.

Wild creatures, and especially birds, are voracious feeders, often eating their weight in food daily. Thus birds are a tremendous aid to the farmer in the control of weeds and insect pests. Although we generally notice the plum or berry that has been pecked by birds, and we see the pheasants and meadow larks pulling up our corn and peas, what they destroy in this way is usually an insignificant amount, and even this can be saved by proper management. Though it is lost from that particular crop, it is more than replaced by the corn, fruit, and vegetables saved from the ravages of insects which those same birds destroy at other times. In fact, most insects have many known enemies. The

numbers below represent only observed kinds of birds eating each kind of insect:

Codling moth - 36  
Army worm - 43  
Alfalfa weevil - 50  
Cut worm - 96  
Leaf hopper - 175  
Wire worm - 205

Cases are on record of large fields having been entirely cleaned of grasshoppers and other insect pests by large numbers of birds from nearby favorable habitats. It is probable that birds destroy more insects than any other single agency and in that way greatly reduce the farmers' loss from that cause.

The food eaten in different seasons by birds is quite varied. Winter food consists of seeds, dried fruits or berries and but little green stuff. Spring food is often grain and hard foods softened by winter moisture and frost, such as cherry pits and hard berries. Little else is available ordinarily and it is easy to see why birds invade crops at this season. In summer food is abundant. Insects have hatched out, weed seed has matured and each kind of wild life can find its favorite food. In fall food is usually plentiful, although water may be short. Food and water may be abundant, but not available to various forms of wild life, because of its distance from any suitable cover.

Cover is anything that provides a favorable retreat or offers shelter or protection. Different types of game require a diversity of cover, but some kinds like the cottontail, are adaptable to almost any type of cover. Farm game cover may be classified as





1. Concealing cover which gives a sense of general security;
2. Shelter cover, affording protection from extremes of weather;
3. Nesting cover, hiding places for nests, and
4. Emergency cover, a place to get in a hurry when enemies appear suddenly.

Natural enemies of game can usually be kept down by judicious use of poison, traps and guns. The stray cat is probably the worst enemy of game and other birds. Hawks and owls, although there are many different kinds, are not important enemies of game birds and animals. Ordinarily there are only three hawk species and one owl, which prey largely upon game. The Cooper's Hawk, Sharp-shinned Hawk, and the Goshawk, feed largely upon birds and rabbits. These hawks are collectively known as the darters and can be distinguished by their relatively short wings and long tails. The soaring hawks prey mostly upon troublesome rodents, as do all the owls. The Great Horned Owl also preys upon rabbits and game birds. All hawks and owls, with the exception of those named, should be protected. The Marsh Hawk is also a darter, but one of the most helpful of all to the farmer. It can be identified by a conspicuous white patch at the base of the tail.

Diseases often greatly reduce the number of game birds and animals. In England this loss is largely prevented by regulated hunting as soon as the number warrant it. Leaving only enough seed stock each year to populate an area or farm reduces the amount of food needed during the seasons when food is scarce. Hunting tends to select only the best and most alert and healthy individuals for seed and at the same time prevents diseases which might occur due to overpopulation of the range.

The main agencies of wild

life destruction in agricultural areas are: farming machinery and operations, predatory animals, hunting, climatic factors, birds of prey, and diseases and parasites. Mortality is greatest in the early stages of bird life and egg destruction accounts for about 50% of the loss. If all the agencies reduce the young hatched by 50% it is evident that hunting and other factors take their toll from 25% of the original number of eggs. If farming operations are managed so that the egg loss due to them is reduced to say 20% of the total 40% of the original number of eggs would hatch and the birds reach maturity and be available for hunting.

The Soil Erosion Service contemplates a large planting program and where plants that produce food can serve their purpose and also provide food and cover for wild life, the use of these plants would further the farmer's project of game management. Also, the dams built by the Soil Erosion Service will provide more water than is now available for game. Orchards, ornamental and roadside plantings, may all contribute to the food and cover supply of game. Especially in contour planted orchards, where clean cultivation is not practiced, a little attention to and encouragement of the right kind of plants on the risers would greatly increase game food.

That increased cultivated areas tend to decrease weed growth, rodent pests and insects is partly true. However, clean cultivation of roadsides, etc. as is now practiced, does not control them, and too, many farmers have found it wise not to clean cultivate their terraces in contour plantings. Also, the value received from the increased numbers of desirable wild-life populations would offset any increase of the undesirable ones. The farmer might object to a change in his method of farming, but in areas where soil erosion is an important factor, he is



being forced to do so or abandon his farm.

The harvesting of a maximum crop of game necessitates a modification of farming operations and methods. An important source of food and cover may be provided by leaving unharvested strips and corners of cultivated crops adjacent to coverts, especially if the crops are grain or seed. Strip cropping provides good cover as well as food. Special caution should be observed by the game manager farmer when harvesting early crops to protect nests. Flushing bars on mowing machines prevent cutting over or thru nests before they are seen. If headers are used for grain harvesting instead of machinery with low cutter bars, enough stubble is left to protect nests. Also, by beginning harvesting farthest from cover the game will not be "surrounded" in the center of the field.

Returns to the farmer from game management include:

1. Increased meat for his own table.
2. Control of insect pests.
3. Esthetic value.
4. Cash income.

Game management is a paying farm enterprise in many places. There are various methods of collecting the returns.

1. The farmer acts as warden and gives hunting privileges in return for food for game, stocks of planting material or of game furnished by the hunters.

2. In Michigan the farmers sell hunting tickets and are aided in the control of trespass. They maintain the stock of game and their environment.

3. Fees are the more common method. In Texas \$4.00 per day or less

is the usual fee. In southeastern United States 10 to 25¢ per acre is charged. In Iowa on managed game areas a fee of 50¢ or less per bird is collected.

From this consideration I believe it would be logical to conclude that game management would be a profitable new crop for many farmers in Southern California and that the Soil Erosion Service is in an advantageous position to encourage it.

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Ralph Bennett, assistant extension agent, tells us that the cooperators in the Las Posas are sold on soil erosion and they are helping greatly to put the program over.

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Mr. Carpenter received some special tobacco the other day - several cans of it. Mr. McClymonds was in on the deal. Also saw a can on Mr. Hooper's desk, but don't believe Bill smokes a pipe.

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Mr. Reddick is away on a speaking tour, giving illustrated lectures on soil erosion. Mr. Hooper, extension agent, is also similarly engaged.

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ECW office is now on the second floor of the City Hall, in Room 4. A little paint made the room bright and cheerful.

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"Much of our land surface, formerly a sponge, is now a man-made tin roof."

-- W. A. Rockie

